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ABSTRACT

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Technical Report No. 149

SENSITIVITY TO WHAT IS IMPORTANT IN PROSE

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Abstract

Two studies assessed children's sensitivity to relative importance in prose. Children rated importance similarly to adults when assigned perspectives. Children's ratings are not necessarily idiosyncratic: They agreed more with each other than with adults. Developmental changes in the ratings of three information categories appeared. Both encoding and retrieval processes influenced children's memory, but they used perspective-specific retrieval strategies only when told to. Evidence for various encoding and retrieval strategies was discussed. Results were discussed in terms of the knowledge frames presumed to subsume story information. In practice, teachers need to reintroduce "mind sets" after reading to insure that students will use them.

Sensitivity to What is Important in Prose

The purpose of this paper is to address questions about children's sensitivity to the relative importance of prose elements. One issue is children's ability to rate the relative importance of prose elements. A second is the relationship between rated importance and text recall by children. The final issue to be discussed is the extent to which children's recall is a function of particular encoding and retrieval strategies. Comparisons between the performances of children and adults will frequently be drawn.

Mature readers clearly distinguish between important and unimportant prose elements in rating tasks (Johnson, 1970; Meyer & McConkie, 1973; Bower, 1976). Using a variety of techniques and procedures, these investigators have demonstrated a high degree of agreement among adults concerning those portions of a prose passage which are most important, somewhat less important, and those which are unimportant to the theme of the story. Procedures for assessing importance have included story grammars (Rumelhart, 1977), analysis of logical structure (Meyer, 1975), student rating (Johnson, 1970), or summaries. Bower (Note 1) used three of these procedures to determine which propositions of his stories were important to the plot. The trends were clear; propositions that his story grammar assigned to the top level of a hierarchy were rated as more structurally important or central to the gist of the story, and were more likely to be mentioned in summaries. No matter how a text's structure was determined, the repeated finding is that adults are able to distinguish important from unimportant text elements.

Relative importance in prose has been shown to be a function of the adult reader's perspective (Pichert & Anderson, 1977). A question addressed in this paper is whether taking a perspective helps children order the relative importance of a story's ideas. Pichert and Anderson constructed two stories, each of which contained details and events of interest to (at least) two different points of view. For instance, one story is about two boys skipping school who go to one boy's house because his mother is never home that day. Theirs is a large home on a beautifully landscaped, large lot, a quarter of a mile from the nearest neighbor. While the family is evidently well-to-do from the number of valuable items mentioned (color TV, painting collection, etc.), the house has a few defects (leaky ceiling, damp and musty basement). Different groups rated the importance of the story elements from one of three points of view: that of a burglar, a prospective homebuyer, or no directed perspective. If the relative importance of text elements is invariant, a high correlation would be expected among ratings of idea unit importance obtained under the different perspectives. On the other hand, if significance depended upon perspective, the correlation among ratings across perspectives would be quite low. The latter result obtained. The average correlation of rated idea unit importance across three perspectives on each of two stories was .11.

Pichert and Anderson then had independent groups of subjects read the stories taking the various perspectives. The previously obtained ratings of idea unit importance were strongly related to immediate recall. This was true just of ratings obtained under the perspective the subject was directed to take, not other possible but non-operative perspectives. Also significant

was the effect of importance from the operative perspective on one-week recall. The measure was recall of elements after one week, given recall of the same elements shortly after reading. Thus, importance was demonstrated to have independent effects on delayed recall. To summarize, people learn and remember more of the important than unimportant elements of a story, but importance depends upon perspective. We wonder whether this statement applies to children as well as to adults.

Consider why important elements are better recalled. Proposed explanations are of two classes: those operating at the time a passage is encoded, and those operative at retrieval. One encoding explanation suggests that subjects, after identifying important elements, direct to them greater amounts of attention and cognitive processing. A somewhat different account argues that subjects encode prose by using text elements to fill the slots in pre-existing knowledge frames. Material is important and better remembered if it fills the available slots. Several investigators (Bower, 1977; Mandler & Johnson, 1977; Pichert & Anderson, 1977) have speculated that importance has effects at retrieval, instead of or in addition to those at encoding. One idea is that memory search proceeds from the generic knowledge incorporated in pre-existing knowledge frames to the particular information stored when the text was read. Information important to the knowledge frame would be accessible, unimportant details would not. A second retrieval account assumes that incoming information is indexed with respect to importance. The demand characteristics of the recall situation cause memory search (or writing behavior) to terminate when a subjective response criterion is reached. A third possible retrieval process is "inferential reconstruction."

Failing to recall a particular text element, a subject might try to reconstruct it on the basis of items which usually fill the blank slot in the operative knowledge frame. The element might appear as an educated guess or, perhaps, it might first be verified against an otherwise weak or inaccessible memory trace. Either way, such expenditures of mental effort will in most cases be made only for important elements.

No studies had provided incontestable grounds for retrieval, distinct from storage, mechanisms operative in prose recall. Anderson and Pichert (1978) attempted to do so in two studies. After recalling the burglar/homebuyer passage once, subjects were directed to shift perspectives and then recalled the story again. Subjects produced on the second recall significantly more information important to the second perspective that had been unimportant to the first. They also recalled less information unimportant to the second perspective which had been important to the first. These data clearly show the operation of retrieval processes independent from encoding processes.

Anderson and Pichert's second study replicated the results of the first and provided introspective reports on encoding and retrieval processes. The interview protocols clearly suggested that readers selectively attend to elements of a story that are significant in terms of an operative perspective. Of the retrieval explanations, subjects' self reports most often supported the idea that high level knowledge structures guided memory search. They said the new perspective led them to recall new information by causing them to think of the general category subsuming this information.

At what age and in what ways does the processing bias toward important elements of prose manifest itself? Investigations concerning children's ability to identify, to learn, and to remember the important elements of prose provide some clues. Several studies have shown that children's ability to identify or abstract main ideas is very limited and develops slowly (Brown, Smiley, & Lawton, 1977, Barrett & Otto, Note 2). Young children can perform the task only when intense instruction (or significant amounts of interaction with simple materials) is provided (Danner, 1976; Smirnov, Istomina, Mal'tseva, & Samokhralova, 1969/1971-72). Early indications suggest suggest that categories of information which children consider important to remember may change with age (Stein & Glenn, Note 3).

Consider now those studies which bear on what parts of prose children typically recall. The case will be made that children, like adults, favor important elements in recall. This argument was made as early as the turn of the century by Binet and Henri (cf. Thieman & Brewer, 1978) and Thorndike (1917), and as recently as this decade (Brown & Smiley, 1977; Christie & Schumacher, 1975).

Brown and Smiley had groups aged 8, 10, 12, and 18 rate the parts, or "idea units," of two Japanese children's stories in terms of their importance to the structure and theme of the passage as a whole. An independent group of college students had been asked to eliminate one-quarter of the idea units which they judged to be least important. This procedure was repeated twice more until only one quarter of the units, those judged most important, remained. Thus, four groups of idea units from least to most important were identified. Experimental subjects read and heard the stories

twice before following the same rating procedure. The results showed that younger subjects did not differentiate structural importance, but older subjects (college students and, to some extent, seventh-graders) did. Brown and Smiley, in a footnote, suggested that younger children's ratings were internally inconsistent, rather than uniformly divergent, from those agreed upon by adults. No formal analysis had been conducted to make this point.

Brown and Smiley then tested recall of the two stories at grades three, five, and seven. Older children recalled more than younger, but all children followed, in general, the adult pattern of recall; that is, proportionately more of the highest rated idea units were recalled than those rated medium or low in importance. Even without being able to identify the most important idea units, children recalled them most frequently. These results have been replicated under various conditions with nursery school and kindergarten children (Brown, 1976), and educable mentally retarded children of seventh-grade age (Brown & Campione, 1977).

Young children have proved unable to identify or otherwise indicate important and unimportant story elements. There is greater evidence of this sensitivity in their recall measures. However, in both identification and recall, sensitivity to importance increases with age. The developmental trend suggests that while third-graders tend to recall more important elements, it is not until at least seventh grade that children begin to show the adult pattern of importance ratings. Most authors have, either implicitly or explicitly, favored the attention-directing-at-encoding hypothesis for

the primacy of important elements in recall. None of the other processing strategies have been ruled out by this research, however.

In brief, mature readers clearly distinguish between important and unimportant prose elements in rating tasks. Children's ratings have been shown to be inconsistent with adults', at least until seventh or eighth grade when a reasonable reflection of the adult pattern emerges. No investigators, however, have attempted to note consistencies of children's ratings. Nor has there been any attempt to classify the text elements whose adult ratings differ radically from children's. Relative importance in prose has been shown to be a function of the adult reader's perspective. Taking a perspective may help a child order the relative importance of a story's ideas. On the other hand, the burden of keeping a perspective in mind may make an already difficult task even more so. These issues will be addressed by the experiments described below.

Adult ratings of relative importance predict the story elements children are likely to recall. The relationship between children's ratings and recall has not, however, been investigated. Both children and adults display a bias toward remembering the most important elements of prose passages. The primacy of important elements in recall suggests various encoding and retrieval processes at work in comprehension. Children's use of these strategies has not been studied. Developmental trends in the use of these strategies will be explored. One question is whether children recall previously unrecalled ideas following a shift in perspective.

Experiment 1a was conducted in order to answer questions about children's developing ability to rate relative text importance. The influence

on ratings of having a perspective in mind was assessed. Another goal of the study was to determine the extent to which any child's ratings agreed with peer group and adult group ratings. Also, an analysis of the ideas on which children's ratings differ from adults was conducted.

Experiment 1b explored the relationships between the ratings and recall of a group of third-graders. At issue was what influence taking a perspective had on recall. Also of interest was a determination of those text elements whose rate of recall did not conform with expectations based on importance ratings.

In Experiment 2 children's recall of text elements which were important and unimportant to a particular perspective was compared. Children were given an opportunity to list perspective-relevant items following recall, then were asked to shift perspectives and list story elements important to the new perspective. These data shed light on the encoding and retrieval processes used by and available to young children.

Experiment 1a

In this experiment the capacity of good and poor readers in grades 3, 5, and 7 to identify story information adults regard as important to certain perspectives was assessed. The procedures were straightforward: Students and adults read a specially constructed story from one of two directed perspectives or no directed perspective. After reading, they rated the relative importance of each idea unit on a three point scale.

Method

Subjects. Forty-five third-, 45 fifth-, and 51 seventh-grade students from a rural Illinois school district served as judges. Also participating were 42 graduate students from an educational psychology course at the University of Illinois.

Materials. A story that could be viewed in terms of two or more high level schemata was constructed, as follows:

> The boys felt free as birds. A mean dog started chasing them so they quickly ran along the railroad tracks. They dashed between parked cars, barely looking up as they crossed the streets. Tall hedges surrounded Mark's house. "I told you today was good for skipping school," said Mark. "Mom is never home on Thursday." In the garage were three 10-speed bikes. They swung a while on a swing that was nearly ready to fall. Pete said, "I wonder what the kids are doing in school today." "More work, probably," replied Mark.
>
> They went in the house. The side door was always unlocked. Some pieces of broken glass were on the floor. Mark's sister had fallen on the slippery carpet while she was carrying one of Dad's famous paintings. The glass in the frame had shattered. Boy, did she get it!
>
> Mark turned up the stereo. "Don't worry, the police car doesn't usually go by until 2 o'clock," Mark shouted. They picked up two knives and began to sword fight. The winner wore Dad's diamond tie clasp. Next they invented a game of seeing who could throw lighted matches the farthest into the sink.
>
> Mark's Dad kept his coin collection next to a lamp with a badly worn cord. They slipped the cord under the carpet so it would be out of the way. Mark bragged that he could get spending money from the desk drawer. "That's why I said 'no thank you' to that man who wanted to give us candy," said Mark.

Mother's closet was filled with furs and a locked jewelry box. Mark carried in the color TV. While the TV was on they threw darts at the dartboard behind it. More interesting was Mark's new CB set and a huge box to play in. In the box was a plastic bag that they used for a spaceman helmet. The box used to hold their new refrigerator. The old refrigerator stood open outside.

Suddenly the phone rang. Mark and Pete were sad to learn they had missed a good movie at school.

This story, hereafter called the Skipping School passage, was written to contain approximately equal numbers of features of interest to a burglar and to a safety expert. For instance, a burglar would be interested in the jewelry box but uninterested in a swing that was nearly ready to fall. Presumably the reverse would be true of a safety expert.

Two experienced judges parsed the story into 58 idea units. The raters were in agreement on 92 percent of the unit boundaries. Differences were resolved in conference. A group of reading teachers judged the story comprehensible to third-graders, and the Fry readability index was 3.8.

Procedure. Grade-school subjects were randomly assigned to one of three classrooms. They were told "Whenever someone reads or hears a story some ideas stick out as being more important than others. Today we're going to show you some stories and ask you to tell us how important each part of the story is." Subjects were then given a booklet which contained a warm-up task, the Skipping School passage, and pages upon which the idea units could be rated. The warm-up exercise was a two-sentence, six-idea unit story about Wonder Woman. The experimenter instructed subjects to read along silently as he read the story aloud. Subjects then turned to a page on which

the six idea units had been printed in a column on the right. To the left of each idea unit was a graduated-sized series of boxes. The largest box was labeled "very very important," the middle box "kind of important" and the smallest box "not at all important." The experimenter pointed out all this to the subjects and explained the rating task. Subjects were exhorted to do their own work: "I'm interested in what you think . . . You won't be getting a grade on this, but please pay attention and try to do as well as you can." The experimenter and subjects then worked through the example exercise together, idea unit, by idea unit to make certain that the children understood the mechanics of the task. The experimenter provided a brief rationale for several of his importance ratings to illustrate the conceptual nature of the task. No reference to particular perspectives was made at any time during the warm-up task. It was continually emphasized, "Don't worry if you marked a different box (than I did) because I want to know what you think. Your answer is just as right as mine."

Following the warm-up task, subjects were told they were about to hear and read a longer story, and that after the story was read they would be asked to mark down the importance of each part of that story. At this point, instructions differed for subjects in different classrooms. Subjects in the first group were told "When you read this story I want you to pretend that you are a safety expert; you know, someone who checks on dangerous situations. Pause here a moment to think to yourself what kinds of things are important to safety experts. Ask yourself silently, what would a safety expert be interested in knowing. Think of how important every idea in the story would be to a safety expert."

The second group was assigned the burglar perspective, "you know, someone who steals things from houses." The third group received no perspective instructions. Subjects then read along silently as the experimenter read aloud the Skipping School passage at a slow/normal pace.

It may be objected that experimenter/reader was confounded with perspective condition at each grade level. A solution would have been to have subjects listen to a tape recording to insure equal intonational emphasis of story elements. Informants suggested, however, that children in groups are less likely to pay attention to tape recorders than they are to live performers. Children also appear to have fewer reservations about talking back to tape recorders than to adults. For these reasons, experimenters read the passage. The three male experimenters practiced reading the story aloud to minimize unintended emphasis of particular story elements, and were only told about the perspective condition they would assign the morning the study was conducted.

After the Skipping School passage was read, the rating task was performed. Subjects were told to mark the box they thought represented the importance of each part of the story. Subjects assigned perspectives were reminded of the perspective and told "Say to yourself 'Is this important to a safety expert (burglar)?' for each part of the story." The experimenter announced the number of each idea unit, read the unit, and paused long enough for subjects to respond. After the first couple of idea units the experimenter suggested that those who could go faster than he was reading should do so, so long as they read each part carefully before making their decision.

The experimenter then read aloud the idea units at the pace of the slowest children in the classroom. When one-third and two-thirds of the idea units had been rated, breaks were announced, "Look over what you've done so far to see if you have an X in one of the boxes for each part of the story." Subjects assigned perspectives were reminded to ask whether each idea unit was important to the assigned perspective. At the end of the session, subjects were thanked and dismissed to their regular classrooms. Stanford Achievement Test scores obtained six months previously were available for all but a few of the children. A median split on the reading comprehension subscale at each grade level was used to identify high and low verbal ability subjects.

Adult subjects were assigned to conditions by randomly distributing booklets which consisted of an instructions page, the Skipping School passage, and the pages containing the rating task. There were no warm-up exercises or breaks during the rating task, and subjects read the story to themselves. The instructions assigned one of the two perspectives or no perspective, and asked subjects to read through the story at least once before beginning the rating task. In all other regards the task and materials were the same for children and adults. To obtain a measure of the interrater reliability of the ratings, an analysis of variance procedure was employed (Winer, 1962, p. 128). The reliability coefficients of the 12 age X perspective groups ranged from .73 to .97. While interrater reliability increased slightly with age, it was noted that even the third-graders were consistent raters of idea unit importance.

Results

Changes in the ability to identify important elements. Correlations between each adult/perspective group and its grade school counterpart on the mean rating given each idea unit were computed as a check on the relationships between importance ratings, age, and perspective-taking. The results are depicted in Table 1. The results of a similar analysis by Brown and Smiley (1977) are included for comparison. The pattern of correlations of the control subjects replicates the Brown and Smiley findings: younger subjects as a group do not distinguish (in the manner of adults) between levels of importance, fifth-graders begin to, and seventh-graders do. The pattern of correlations is quite different, however, when subjects are directed to take perspectives: while sensitivity still increases with age, even third-graders

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Insert Table 1 about here.

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show a high level of correspondence with adults given the same perspective. Apparently, taking a perspective can sensitize children as young as third grade to the relative importance of story elements.

Congruence scores. Next we computed a "congruence" score for each subject, an index of sensitivty to idea unit importance. Each subject's ratings for the 58 idea units was correlated with the mean adult ratings from the operative perspective. Subjects sensitive to importance (defined by the adult standard) should receive scores approaching +1.00 while those who were either insensitive to importance or unable to understand the task would receive scores approaching ±0.

First computed was a 3(Age) X 3(Perspective) X 2(High vs. Low Reading Comprehension) analysis of variance. All three main effects were significant. Congruence scores increased as a function of age: .33, .42, and .60 for third-, fifth-, and seventh-graders respectively, $F(2,110) = 16.8$, $p < .01$. Differences due to Perspective, $F(2,110) = 19.9$, $p < .01$, revealed that subjects given perspectives were more congruent with adults (safety experts = .55, burglars = .54) than subjects not given a perspective (controls = .27). Subjects with high reading comprehension scores had higher congruence scores than low-ability subjects, .46 and .39 respectively, $F(1,110) = 10.9$, $p < .01$. None of the interaction terms was significant.

Next computed was the correlation between each child's ratings and the mean ratings of his/her peer group. These correlations were averaged and compared with the mean congruence scores. If children's ratings are idiosyncratic, the value of this new measure should be near zero. If, on the other hand, children agree with one another concerning what is important, but their views are divergent from adults, the new measure should exceed the congruence scores. Table 2 shows that the latter pattern of results obtained in eight out of nine comparisons; that is, children's ratings of importance were more like their peers' than adults'.

Insert Table 2 about here.

These results will be discussed at the end of Experiment 1b.

Experiment 1b

Experiment 1b was conducted in order to determine the test-retest reliability of the third-graders' ratings, and to examine the relationships

between their ratings of importance and recall. At issue is what children recall from a story and how recall is influenced by taking a particular perspective. Also of interest are the kinds of units whose rate of recall does not conform with their relative importance ratings. Therefore, eight weeks after Experiment 1a had been conducted, investigators returned to have the same third-grade students listen to the same story, recall it, and rate it for a second time.

Method

Subjects. Of the original 45 third-graders, two had moved away, one declined to participate, and two other's protocols were lost due to mechanical difficulties with the tape recorders.

Design and procedure. Eight weeks after the initial rating session, the experimenters returned to the original third-grade classrooms and retested the same children. Subjects were assigned to the same perspective condition assigned them earlier and were seen individually. Subjects were told to pay close attention to the story about to be played for them on the tape recorder since they would later be asked to tell the experimenter about it. Perspective instructions were given as they had been in the earlier session. The Skipping School passage was then played. It had been recorded at a slow normal pace by an experienced male reader. Immediately after hearing the passage, subjects were asked to read as quickly and as accurately as they could a list of twenty words given them by the experimenter. Subjects then orally recalled as much as they could of the story. A few students began to intrude ideas clearly unrelated to the story. When this happened, the

experimenter, during the student's next pause, reminded the student to say everything he/she could remember from the story, but only those ideas which the student believed to have been actually stated in the story. Recalls were tape recorded. Following recall, children performed the rating task in the same way it had been administered eight weeks earlier. The experimenter then took time to thank each child and ask him/her questions about his/her performance if the questions seemed warranted. Each child agreed not to reveal to classmates what the experiment was about, and then was dismissed.

Results

Test-retest reliability of ratings. First computed was the correlation between each third-grader's two sets of ratings, a sort of test-retest reliability score. The mean reliability was .47. Next computed was a new set of ratings and the original adult mean ratings. The correlation between each child's ratings and his/her perspective group's mean ratings was also found. Group means are shown in Table 2. The results replicated the earlier findings; children agreed more with each other than they did with adults on the rating task.

Relationship between rated importance and recall. Children's recall was scored, using lenient gist criteria, for the presence or absence (1 or 0) of each idea unit in the story. For each subject, point-biserial correlations were computed between recall of the 58 idea units and various rating data. Collectively these will be referred to as concordance scores. Concordance

scores were calculated between each subject's recall and his/her (a) first set of ratings (a prediction score), (b) second set of ratings (a postdiction score), (c) peer group's mean original ratings, (d) peer group's mean delayed ratings, and (e) adult group's mean ratings. Mean concordance scores are depicted in Table 3. In spite of the fact that all of the scores are very low, it is worth noting that virtually all of them are positive.

Insert Table 3 about here.

One property of our concordance scores may serve to make them artificially low. Note that the subject who recalls either all or none of the story's idea units receives a concordance score of 0. A more stable indicator of the relationship between ratings and recall is the correlation between group ratings and overall group recall. These correlations are shown in Table 4. The results provide additional evidence that children's ratings are better predictors of their recall than adult ratings.

Insert Table 4 about here.

A series of stepwise multiple regression analyses was conducted in order to determine the rating scheme which best predicted recall from each perspective. Entered as predictors were pre- and post-diction mean peer group ratings and the adult ratings from each perspective for every idea unit. The criterion variable was mean group recall of each idea unit. Separate analyses were performed for the three perspective conditions. From our earlier work (Pichert & Anderson, 1977), we expected the ratings

given to idea units from the operative perspective to best predict recall. This was not the case. For safety experts, burglars, and controls, the only significant predictors were peer group control ratings. This suggests that our rating and recall tasks introduced different processing demands which resulted in children not using (or not being able to use) their perspective when they heard the story or, perhaps, when they attempted to recall the story.

Recall of safety expert and burglar clusters. Consider now recall performance on those units which are rated more important to safety experts than burglars and those units more important to burglars than safety experts. These were identified by transforming the original peer and adult ratings from each perspective to standard scores. Only those units which differed across perspectives by a 0.8 or greater standard score for both peers and adults were included in the analysis. By this means, 12 units were assigned to a cluster important to safety experts and 12 to a cluster important to burglars. The proportion of units recalled from each cluster by each subject was the dependent measure in a 2(Perspective) X 2(Verbal Ability) X 2(Cluster) mixed analysis of variance. If perspective influenced third-graders' recall as it had adults', there should be an interaction between Perspective and Cluster, in which safety experts recalled more safety expert units and burglars recalled proportionately more burglar units. This interaction did not appear, however. The only significant effect was due to Cluster, $F(1,34) = 13.5$, $p < .001$. Proportionately more safety expert than burglar units were recalled, .39 vs. .27 respectively. Proportion of recall of each cluster by each perspective group is shown in Table 5. While burglars

recalled more burglar units than did safety experts, burglars also recalled more of the safety expert units. Unaccountably, safety experts recalled fewer safety expert units than control subjects. Grabe and Prentice (1979) have recently reported a study in which low-reading ability sixth-graders recalled the same number of perspective-relevant story elements as high ability controls. These outcomes are disturbing since they fail to replicate the results of many studies involving adults (e.g. Pichert & Anderson, 1977).

Insert Table 5 about here.

Rating differences between children and adults. Closer inspection of the data seemed warranted in order to attempt to discern the kinds of idea units on which adults' and young children's ratings differed. The mean rating given to idea units by each age and perspective group was transformed into a standard score. Within perspective groups, each unit's standard score was compared across age groups. In this manner it was possible to identify those units which indicated age differences in perceived importance. Any units which differed by one standard score or more were considered.

There appeared to be three types of units on which adults and children differed in their ratings. The first group consisted of units which adults, but not children, considered highly relevant. These tended to be more subtly related to the perspective, requiring, perhaps, more world knowledge. For instance, adult burglars rated Tall hedges surrounded the house as very important, presumably because tall hedges might aid the burglar's desire to avoid detection by blocking the view of passers-by. One fifth-grader, in contrast, volunteered that "they (hedges) aren't important 'cause you

wouldn't steal them, would you?" The lamp with the badly worn cord and the fact that the cord was slipped under the carpet were rated very important by all safety experts except the third-graders, revealing a similar naiveté. The second category of units rated differently were those which answered "when" and "where" questions. Adults were much more likely than youngsters to rate these as important. For instance, all burglars thought that the police car and spending money were important, but only the older subjects thought that the time the police went by (2 o'clock) and the location of the money (in the desk drawer) were equally important. All safety experts rated throwing lighted matches important, but adults were more likely to think where they were thrown (into the sink) was important as well. The last category was made up of what can be best described as items of "generic human interest." Young children are much more likely to be distracted by (give high ratings to) ideas in the stories which have personal importance regardless of assigned perspective. Each of the following items was rated very important by the youngest children, less so by adults, regardless of the assigned perspective: A mean dog started chasing them; Boy, did she get it!; They picked up two knives and began to sword fight; More work, probably (in answer to the question about what was going on in school); they had missed a good movie at school.

Differences between rated importance and recall. A similar analysis was made of those units whose relative importance ratings did not conform with the recall results. Idea units were ranked according to total rating given by each third-grade perspective group. The same was done with recall. If an idea unit's recall rank differed from its rating rank by more than

12, it was considered a non-conforming unit. Sixteen units were recalled less often than their ratings "predicted," and 11 were recalled more often. Half of the units recalled less often than they "should have been" were rated very important to burglars or safety experts, but not remembered by those groups. For instance, safety experts did not often recall that the boys ran along railroad tracks, played on a swing ready to fall, played near a lamp with a worn cord, or were approached by a stranger. Burglars did not often recall that Mom was never home on Thursday or that there was spending money in the desk drawer. Four units representing dangerous situations were recalled less often than their ratings by control subjects would have predicted. One unit, the winner (of the sword fight) wore Dad's diamond tie clasp, was recalled infrequently no matter what the subjects' perspectives. Conversations with subjects revealed that very few of them knew what a tie clasp was.

About half of the units recalled more often than their ratings would have indicated probably fall into the generic human interest category. The mean dog, 10-speed bikes, and spaceman helmet were often recalled by groups which had rated them unimportant. Control subjects tended to recall more of the story's less important transition items, things like "said Mark." The "when" and "where" items discussed above, while rated low in importance, also tended to be recalled fairly often.

Four idea units were recalled by most subjects who recalled anything at all. These, upon reflection, represent a reasonable summary of the story. Subjects most often recalled that the boys were skipping school, that they went in the house, that the phone rang, and that they missed a

good movie at school. Since these were rated relatively low in importance, especially when perspectives were assigned, it is little wonder that the relationship between ratings and recall was low.

Discussion

Three major conclusions may be drawn from the results of Experiments 1a and 1b. First, children are able to distinguish important from unimportant passage elements when they are assigned a particular relevant perspective, but are unable to do so when no perspective is assigned. Second, children are more likely to agree with other children than they are with adults about what is and is not important in a passage. Third, the relationship between young children's importance ratings and recall suggests that the children may not be keeping the assigned perspective in mind when they read and/or recall the story, and that ideas which convey the gist of the story may be undervalued in ratings.

Why did children's ability to differentiate important and unimportant text elements improve under conditions where perspectives were assigned? Adults asked to rate the importance of idea units in a story are able to adopt a "default perspective" (Pichert & Anderson, 1977) which probably closely matches the perspective the author intended to be taken. This leads to a high reliability of ratings. In the absence of particular perspective instructions, young children may adopt default perspectives which are idiosyncratic, producing poor agreement (cf. Brown & Smiley, 1977). Specifying a perspective may cut down individual differences raising agreement. However, consider that children were more likely to agree with each other than with adults about the relative importance of the idea units in our

story. This was not only true of idea unit ratings obtained in the first study, but was replicated in the second study. The differences in agreement were most striking for control subjects. Thus it would appear inappropriate to characterize children's ratings as idiosyncratic, as Brown and Smiley (1977, p. 5) have done. We are not saying that children as a group have a view of the world which is orthogonal to that of adults; indeed, there is a fair amount of agreement between the adults and children. Given no perspective, the criteria for judging importance are consistent within, but not between, age groups. Specifying a perspective insures that children and adults will use reasonably similar criteria for judging importance. Differences in ratings between children and adults still existed, however, for (at least) three categories of information.

Children's ratings at every grade level were similar to adults' under conditions where perspectives were assigned. However, the correlation between third-graders' ratings and recall, while positive, was low. This is perplexing given the consistent finding that even young children recall more important than unimportant text elements. One clue to the problem is that control group ratings were the best predictor of recall regardless of assigned perspective. This may have occurred for a number of reasons, each of which involves a child's ability to use a perspective to organize information. On the rating task, students took as much time as they needed to rate each idea unit. Moreover, the experimenter frequently reminded them to keep their assigned perspective in mind while rating every idea. Even though the passage had been recorded at a slow/normal pace, subjects in the recall study may not have had enough time to carefully consider every idea in the light of

their assigned perspective. This would tend to cut down on any encoding benefit of keeping a perspective in mind, since there was little time for students to use the perspective to draw attention to, or "capture," important story elements. Note that this result is very different from that obtained in studies with adults, in which taking a perspective clearly resulted in an encoding benefit for items important to that perspective (Pichert & Anderson, 1977). The problem may not have been at encoding, however. It may be that children lack perspective-specific retrieval strategies. If our third-graders did possess such skills they may not have used them.

Our descriptive analysis of recall revealed that while items of generic human interest were frequently recalled, many perspective-relevant ideas were not. (Note, once again, the difference between this study and those involving adults: adult recall clearly favors perspective-relevant ideas.) While this result does not clarify whether assigned perspectives failed to influence encoding or retrieval, it is consistent with the finding that control group (students assigned no perspective) ratings best predicted recall. In the absence of a particular perspective to organize information or aid retrieval, subjects operate under a default, or control, perspective. Children's ratings were consistent with peers' (cf. Pichert & Anderson, 1977), so the recall results make it reasonable to believe that subjects were not using their assigned perspectives, but were operating under a default perspective. We hoped to clarify the influence of perspective-taking at encoding and/or retrieval in Experiment 2.

Experiment 2

One purpose of Experiment 2 was to determine whether children's learning and recall at various ages is affected by the perspective around which they are encouraged to organize and retrieve a story. Recall of story elements important and unimportant to a reading perspective, both prior to and following a perspective shift, was investigated. Of interest are clues to the types of encoding and/or retrieval processes operative in prose comprehension. We also wondered whether the relationship between importance ratings and recall would improve when children were asked to list perspective-relevant items following an initial recall attempt.

Method

Subjects. The subjects were 148 students, approximately equal numbers of third-, fifth-, and seventh-graders, from an industrial community in central Illinois. None of these students participated in the idea unit rating study.

Procedure. Subjects were run individually and assigned to reading perspective conditions randomly. Subjects were told that we were interested in people's memory for stories, and that they should pay close attention to the story. Appropriate perspective instructions were then given, using language similar to that used in the previous experiments. Experimenters made sure students knew what their perspective was by asking students to say it aloud. When necessary, the experimenter elaborated perspective instructions with examples of things or events important to the perspective. None of the examples came from the Skipping School passage, however. The

experimenter played the recorded Skipping School story aloud as the subject read along. Following the story, subjects were asked to read aloud a list of 20 words which varied in familiarity and letter-sound regularity. Next came a free recall test. Subjects were told, "Please tell me as much as you can of the story which you just heard. Try to remember the exact words. If you can't remember the words used in the story, tell it to me in your own words. Please try to tell me everything you can remember from the story." Subjects' protocols were tape recorded. As in the earlier study, students who got off track were reminded to remember the ideas which actually appeared in the story. When they indicated that they could recall no more, subjects were encouraged to add or change anything they wished. No time limit was placed on recall attempts.

We wanted to know whether children used their assigned perspective to organize and aid recall. We also wanted to know whether children, like adults, are able to recall previously unrecallable information following a shift in perspective. The children had been asked to do several tasks up until this point, however, so it seemed overly burdensome to ask them to re-recall the entire story. Therefore, following recall, subjects who were initially assigned the safety expert or burglar perspective were asked to list what items in the story were important to that perspective. If children intentionally used their assigned perspectives to aid initial recall, no new items should be added. Then subjects were introduced to the other perspective and asked to list story elements important to it. If perspective has effects at retrieval, children should be able, following a perspective shift, to recall additional information from the originally

unimportant cluster. Control subjects were introduced to the perspectives and asked to name burglar and safety expert relevant items in counter-balanced order. Subjects were finally thanked and dismissed. Typical sessions lasted slightly less than 15 minutes.

Stanford Achievement Test data collected eight months earlier by the cooperating school district was available and was obtained for 142 of the students.

Scoring. Raters checked the recall protocols for the presence or absence of each idea unit using gist or substance criteria. Three protocols at each grade level were randomly selected and scored by each of the raters to provide a reliability check, $r = .93$.

Results

Differences between rated importance and recall. Idea units were ranked according to total initial recall. Recall rank was compared with relative importance ratings. Most notable was the high level of recall of four idea units regardless of subjects' age or assigned perspective. These were the four which seem to capture the gist of the story: it was a good day for skipping school, they went in the house, suddenly the phone rang, and they had missed a good movie at school. These units fall in the lowest two quartiles of rated importance according to subjects assigned perspectives. Story grammars (Mandler & Johnson, 1977; Stein & Glenn, Note 3) predict high rates of recall for these items since they represent "setting" and "outcome" statements.

Other units were recalled frequently regardless of perspectives. The ideas that the boys threw darts behind a TV and that they threw lighted matches into a sink were frequently recalled. So were the famous painting and broken glass, the 10-speed bikes, and the fact that Mom is never home on Thursday. Most subjects remembered the police car, too. Safety experts reported that the police car was important since it helped prevent crime. This had not been indicated in the norming group's importance ratings, however.

Only four safety experts, two in fifth grade and two in seventh, remembered the stranger who had offered candy to the boys. Only a few more remembered that the boys barely looked up as they crossed the street or that they used a plastic bag as a spaceman helmet. Very few burglars remembered that there was a coin collection or that spending money was kept in a desk drawer. Only seventh-grade burglars remembered the CB set. While some of these units had been rated relatively low in importance by young judges, it remains that these perspective-relevant items were considered important by older judges. Why these were recalled less often than, say, a slippery carpet (by safety experts) or a locked jewelry box (by burglars) is not obvious.

Relationship between relative importance and recall. The correlation between group ratings obtained in Experiment 1a and group recall was computed. Two stages of recall will be discussed: initial recall, and initial recall plus additional perspective-relevant ideas mentioned on the first list. At first only those units recalled on the first recall attempt were included in the analysis. As in Experiment 1b, peer group control ratings were the best predictor of recall, regardless of perspective. This changed dramatically, however, when recall included additional perspective-relevant units

named on the first list. When recall included these additional units, peer ratings from the operative perspective best predicted what was recalled by subjects assigned perspectives. Counting only ideas recalled initially, the average correlation between peer group control ratings and recall was .38, between peer group perspective ratings and recall, .31. Including additional units recalled on the first list, perspective ratings correlated .44 with recall, control ratings .41. This implies that children did not efficiently utilize their assigned perspective when they first recalled the story.

It was also true that, in virtually every case, peer ratings were better predictors of recall than adult ratings.

Recall of important and unimportant information. One object of this experiment was to investigate children's encoding and retrieval processes. If children organize or retrieve information around an assigned perspective, they should remember more of the information important to that perspective. This is precisely what we found for initial recall. Only those subjects assigned perspectives were used in the following analyses. Two groups of 12 idea units, identified in Experiment 1b as differentially important to safety experts and burglars, served as important and unimportant information depending on the subject's assigned perspective. Grade and Verbal Ability were between-subjects factors and Importance to Initial Perspective was the within-subjects factor in a 3 x 2 x 2 analysis of variance. The dependent measure was proportion of initial recall of important and unimportant units. Fifth- and seventh-graders recalled significantly more than third-graders, and high verbal ability subjects recalled more than low. Important units were recalled

more often than unimportant, $F(1,91) = 4.13$, $p < .05$. A similar analysis of variance was performed for the second stage of recall, which means that the new dependent measure was the proportion of important and unimportant units recalled initially plus those remembered on the first, perspective-relevant list. Again, older and high verbal students recalled more than younger and low verbal students. The difference between recall of important and unimportant information was more dramatic, $F(1,91) = 27.47$, $p < .01$. More important than unimportant elements were recalled, and it is worth noting that, in this as well as the earlier analysis, there was no interaction between idea unit importance and age. Even third-graders recalled more important than unimportant units. Taken together, these first two analyses suggest that students did not efficiently use their perspectives to organize initial retrieval. After a probe ("List the ideas important to a safety expert/burglar"), they were able to remember previously unrecalled, but obviously stored, items of information important to their assigned perspective.

This does not mean that there was an absence of retrieval effects on initial recall, only that whatever effects there were, were not as robust as they might have been had subjects intentionally used their perspectives to guide retrieval. Nor do these results mean that perspective effects at encoding account for differences between initial recall of important and unimportant units. If encoding effects accounted for these differences, recall of units important to the original perspective should exceed recall of units not originally important, even after the units not originally important had been probed for. The results are equivocal. An analysis of variance similar to the first two was computed, but this time the dependent

measure was the proportion of important and unimportant units recalled at any time, that is, at initial recall, on the perspective-relevant list, or on the new-perspective-relevant list. Once again, older and brighter students recalled more than younger and less bright students. The difference between recall of ideas important and unimportant to the original perspective was, however, no longer significant, $F(1,91) = 2.41$, $p = .12$. The trend favored originally important elements; proportion of recall of units important to the original perspective - .37, unimportant - .34. Thus, while there is some evidence for encoding, distinct from retrieval, effects, it is not conclusive.

These findings are not consistent with our studies of adult learning and memory. Our studies with adults are not directly comparable because they do not include a perspective-relevant listing subsequent to initial recall. It should be noted, however, that one group of subjects in a study by Anderson and Pichert (1978) were reminded of their original perspective following initial recall, and were asked to recall the story again to see if they could recall any additional information. Adults recalled virtually no additional items of importance to their original perspective.

Analyses which included control group subjects revealed that their recall of burglar and safety expert units was greater than that of subjects for whom those units were unimportant, but less than that of subjects for whom the units were important. This fails to replicate what we found in Experiment 1b (cf. Table 5). We are inclined to believe the present results, since adults learn and remember more perspective-relevant than non-perspective-relevant units (e.g. Pichert & Anderson, 1977), and because the results are

consistent with the oft-stated claim that children recall more important than unimportant text elements. The results obtained in Experiment 1b were from third-graders who had exposure to and experience with the story on a rating task eight weeks prior to the recall task, and no opportunity to list perspective-relevant items following recall. Perhaps the earlier procedures introduced a great deal of noise in the data, either directly or indirectly via students' conversations with each other during the interim.

Ideas remembered after initial recall. Subjects were asked to list perspective-relevant and then new perspective-relevant information from the story. For control subjects, the task was to list two new-perspective-relevant information clusters. Half the control subjects were asked to list safety expert units first. The other half listed burglar items first. We computed a 3 x 4 x 2 x 2 mixed analysis of variance with Grade, Perspective [Safety Experts (S), Burglars (B), Controls who listed S items first, Controls who listed B items first], Verbal Ability, and Cluster (S units, B units). The dependent measure was the proportion of idea units from each cluster which were not initially recalled but which appeared on the lists following initial recall. There were main effects for Grade, $F(2,118) = 3.23$, $p < .05$; Verbal Ability, $F(1,118) = 8.53$, $p < .01$; and Cluster, $F(1,118) = 24.49$, $p < .01$. Older and brighter children remembered a greater number of additional units, and additional burglar units were remembered to a greater extent than safety expert units. There were no statistically significant interactions. Table 6 shows the proportion of additional units from each cluster remembered by each perspective group. These results strongly suggest that subjects did not systematically employ their assigned perspectives at initial recall since

the proportions of additional perspective-relevant units were equal to the proportions of new-perspective-relevant units. The order in which control subjects used the new perspectives did not influence amount of additional recall. Even young children, then, manifested an ability to remember previously unrecalled information after a shift in perspective. Simply asking students to list initial-perspective-relevant items also resulted in additional recall.

Insert Table 6 about here.

Once again it must be noted that these results differ dramatically from those obtained in our studies with adults. Adults do not remember additional units important to their original perspective given a second chance to recall the story. They do, however, remember previously unrecalled information important to a new perspective. We have not asked adults to list perspective- and new-perspective-relevant items, so the task demands may not be comparable. The point is that children do not seem to make nearly so good use of strategies to organize retrieval as adults. Nor, perhaps, are they as efficient as adults at encoding, when perspectives can be used to "draw attention to" important information.

Discussion

Third-, fifth-, and seventh-graders directed to take a perspective, or given no perspective, read and recalled a brief narrative. Following recall, they were asked to list perspective-relevant and then new-perspective-relevant information. Two major conclusions may be drawn from the results. First, the relationship between children's importance ratings and recall is poor

in large part because of systematic problems at recall and on the rating task. Second, both encoding and retrieval processes seem to influence children's prose recall, but not to the extent found in studies involving adults.

Problems with story retrieval and problems with relative importance ratings may account for the poor relationship between children's importance ratings and recalls. On the one hand, children do not seem to employ their assigned perspectives as a retrieval plan unless told to do so. As a result, some ideas rated important to a subject's perspective may not be recalled initially. The correlation between importance ratings and recall is dramatically improved when perspective-relevant ideas remembered after initial recall are included in the analysis. Moreover, the proportion of additional perspective-relevant ideas recalled is equal to the proportion of additional recall by subjects for whom the perspective is new. Evidently, children did not keep their assigned perspective in mind at recall. On the other hand, ideas which convey the plot line of the story are well recalled, but may be grossly undervalued by raters who assess importance with respect to a particular perspective.

The second conclusion was that both encoding and retrieval processes probably affect what children remember about a brief narrative. More important than unimportant text elements were initially recalled. This was true of initial recall, but not necessarily of overall recall (after additional perspective-relevant and new-perspective-relevant information had been included). Therefore, while there is evidence for encoding, distinct from retrieval, effects, it is not conclusive.

Retrieval effects of taking perspectives were suggested by additional units remembered on the lists which followed initial recall. It is not likely that additional units were recalled because subjects were lazy on the first attempt. The experimenter strongly encouraged each child to remember as much as the child possibly could. When the child said that no more could be remembered, the experimenter had the child sit back, relax, think through the story and say anything not mentioned earlier. Only when the child insisted that no more could be remembered did the experimenter move on to the next task.

Experimenters frequently had time to ask subjects how they had been able to recall new information. We wanted to see whether children's responses would be similar to those given by adults (cf. Anderson & Pichert, 1978). In that study, most subjects discussed strategies and tactics for remembering in a manner consistent with the retrieval plan hypothesis. Several adults indicated that reviewing new-perspective-relevant concerns caused them to think of previously unrecalled information related to these concerns. For example, thinking about things to steal helped at least one adult remember the color TV. Little support was given the simplest form of the output editing hypothesis. Most adult subjects insisted they had written down everything they could remember.

Consider now youngsters' introspections. Most students made no response or gave a shrug of the shoulders. Only 16 students' responses bear on the retrieval strategies proposed earlier, but their responses were remarkably similar to adults'. Three third-graders offered that they were able to remember new things because they "thought harder." One said "I was just

trying to remember the story [again] and I remembered a little bit more . . . I thought a little bit more." Another said, "I thought back more than I did the first time, I guess. I guess I thought harder." The third said, "I had more time to think about it."

There is some evidence that inferential reconstruction was operative in retrieval. Several subjects, when asked to list items important to burglars, named many valuable objects in rapid succession. One fifth-grade subject, for instance, listed a radio, gold or silver candlesticks, paintings, money, a stereo, the hedges, jewelry, watches, the TV, the refrigerator, "maybe food," etc. When asked whether these all appeared in the story, the student was capable of distinguishing those which did from those which did not. Greater recall of burglar than safety expert units may, in part, result from students' ability to more easily generate concerns of burglars. We probably see more TV shows and read more books about burglars than we do about the dangers of abandoned refrigerators.

The majority of those who made intelligible responses concerning their ability to recall new information said something which suggested that the new perspective made them think about the story in a new way, a way which led them to new information. Two third-graders simply said, "I just remembered it [the jewelry box/spending money] when you said 'Be a burglar.'" Another third grader responded, "Well, it was about a different subject and I had to think about a different subject." Taking the safety expert perspective evoked thoughts of danger: "I was thinking 'How could the house catch on fire'" (from a seventh-grader who remembered the worn cord under the rug); "You said about dangerous stuff and I thought of that [the worn cord] 'cause

the rug coulda caught on fire;" "I tried to think of what was dangerous to them [the boys]." One third-grader, who had listed items important to a safety expert and then listed burglar items said "I thought of the dangerous things first and saw if they were important to a burglar. That helped me remember the other burglar stuff." Two third-graders showed how using perspectives as retrieval plans can be idiosyncratic to some extent. One said, "I was thinking . . . hard. I wanted to see if I could remember the other stuff, 'cause my mama just bought a stereo for a hundred and some bucks." The other said, "I was looking through the story in my mind. My mom's got a jewelry box and I was thinkin' of my sister playing in it."

To summarize, little support was given the output editing hypothesis by children or adults. Some children gave evidence of inferential reconstruction, something not obvious, but not ruled out, in adult recall. Most adults and children who could respond indicated that the new perspective made them think of the story in a new way, consistent with the retrieval plan hypotheses. The results do not rule out the use of any of the hypothesized retrieval mechanisms. The results do suggest, however, that the strategies used by children and adults are similar.

One last point. This was a development study, but there were very few developmental differences of note. Older children learned and remembered more, overall, than younger children. Third-graders, however, like older students, recalled more important than unimportant elements, and remembered roughly the same proportions of additional items as fifth- and seventh-graders. There seemed to be differences between the performance of these children as a group and what we have obtained with adults. The sets of studies are

not directly comparable, however, so the existence of developmental differences in the use of encoding and retrieval strategies remains to be explored.

General Discussion

Two experiments involving third-, fifth-, and seventh-grade students were conducted in order to answer questions about children's sensitivity to the relative importance of elements in a brief narrative. Students heard a story and rated the relative importance of each idea unit from one of two directed perspectives or no directed perspective. Eight weeks after the rating task, the third-graders, after being reintroduced to their original perspective, listened to the story again and attempted to recall it. In Experiment 2 new groups of third-, fifth-, and seventh-graders were asked to read and recall the story from one of the two perspectives or no directed perspective. Following initial recall, subjects listed perspective-relevant and new-perspective-relevant information.

There were several results of note. First, when children were assigned perspectives, their importance ratings were much more similar to adult ratings than those done by children not assigned perspectives. Second, children were more likely to agree with each other than with adults concerning what was important in the story. This apparently holds true not only for ratings but recall as well. Third, the low correlations between ratings and recall in Experiment 1b were probably due in some part to two forces: non-use of perspective-specific retrieval strategies and devaluation of units which convey the story's plot line by raters assigned

perspectives. A fourth finding was that retrieval and, perhaps, encoding processes influenced what children could remember.

Our first conclusion is that children as young as third grade rate the relative importance of a text's idea units in a manner similar to adults under certain conditions. When adult and student raters keep a particular, relevant perspective in mind, their ratings will be much more similar than had no perspective been imposed. This suggests that so long as similar knowledge frames are both available to and used by adults and children, decisions about relative importance will be congruent, at least in a gross way.

While there were similarities in ratings, there were also notable differences. For example, adults know that putting a worn lamp cord under a rug is dangerous; children, apparently, do not, or cannot figure it out. This example highlights differences in the knowledge frames employed by adults and children. Adult knowledge frames tend more often to be related to other frames and contain greater amounts of stored information than children's. As a result, adults directly recognize more input information as important or unimportant and better judge information not initially known to be important or unimportant. We believe that experiential immaturity, rather than lack of word knowledge per se, may prevent full comprehension. It is also the case, we presume, that subjects who have greater experience know the meanings of more words. In practical terms, this suggests that vocabulary scores are good predictors of reading comprehension because both reflect a student's general, academic-related experience.

It is not that children make no judgments about importance when they lack stored knowledge. Their judgments do not go far enough (or, perhaps, go too far depending on how you look at it). Several burglars told us that the darts mentioned in the story were very important because "he could use them to kill somebody." One burglar said they were important because "maybe darts is his favorite game." One third-grader told us that the matches were important because "if the burglar was hiding in a cave he'd need some." Virtually every object in the story was mentioned as very important by at least one young burglar. This suggests that the children tried very hard to fit everything in the story into a knowledge frame. Therefore, while taking a perspective dramatically improves the relationship between adult and student ratings, there is still a developmental trend in the relationship.

Children's importance ratings are not necessarily idiosyncratic, as Brown and Smiley (1977) claimed. Children employ knowledge frames similar to those of their peers, different from those of adults. Stein and Glenn (in press) found similarities in what peers thought important to remember from a story but differences between age groups. Our study, however, is the first to bring this result to light when every idea in the story was rated.

That children's ratings are not necessarily idiosyncratic has ramifications for the study of prose comprehension. Up to now, no other authors have investigated the relationship between children's importance ratings and recall. The logic has run: adults know what is important, children's ratings do not agree with adults, therefore children's recall must be compared

with adult ratings. Models of text structure, whether theoretically based or not, have been created around adult notions of relative importance. Explanations of why children remember and forget what they do may be made more complete with a better understanding of the child's "perspective." Adult ratings predict children's recall fairly well, but peer group ratings do it better.

Children do not use perspective-specific retrieval strategies in the recall of a brief narrative unless told to do so. This helps explain why control group ratings best predict initial recall. If a particular perspective is not being kept in mind at retrieval, the subject is, by definition, operating under control group conditions.

Retrieval, separate from encoding, processes influence what children can recall. After insisting that they could remember no more, 128 out of 142 subjects recalled at least one additional idea unit when asked to list items from the story important to an assigned and/or new perspective. What we did not find was any hint of an interaction between type of additional recall (new-perspective-relevant vs. original-perspective-relevant) and age. If seventh-graders had exercised greater metamemorial ability, they would have added fewer perspective-relevant ideas and more new-perspective-relevant ideas than younger children. This is because a subject with greater metamemorial awareness would have used the assigned perspective to aid initial recall and would have had a greater capability for retrieving new-perspective-relevant information. Fifth- and seventh-graders did recall more additional units of both types than third-graders. High verbal ability subjects recalled more of both types than low. These differences, however,

may be the result of older and brighter students' ability to encode more information, making more available when it was properly accessed.

Subject's comments about their retrieval strategies favored the retrieval plan hypothesis; that is, the idea that recall proceeds from generic information in a knowledge frame to particular information captured by the frame. Output editing and inferential reconstruction also gained some measure of support, however, and cannot be ruled out. No matter which of the proposed retrieval processes is favored, it appears that they may bear little relationship with school performance. The correlation between reading comprehension and what was recalled barely changes when additional recall is included.

Older and brighter children are able to encode greater amounts of information. More important, though, is the fact that children in all three grades tended to remember more information important than unimportant to their perspectives. The evidence, while not conclusive, suggested that children kept their assigned perspective in mind, at least to some extent, while they were reading the story. Whether or not better recall of perspective-relevant items occurred because students paid more attention to the important elements is a question for future research.

The results of these experiments must be replicated with materials more like those used in classrooms. Moreover, our assessment of sensitivity to importance was based on a one-item test-rating or recall of the Skipping School passage. A larger number and variety of texts should be used in subsequent research.

It is difficult to know how to distinguish among the various encoding and retrieval processes proposed in this paper. Disentangling them awaits future studies. This work appears to be crucial, however, if we are to pinpoint the specific deficiencies of immature readers and poor readers in general. It may be that poor readers are less likely to possess the world knowledge necessary to fully assimilate a passage. On the other hand, if their knowledge is adequate, poor readers may be less facile at organizing their knowledge at encoding or during retrieval. The data from these experiments suggest that there may be some validity to each possibility.

Suggestions for classroom practice may be tentatively made. Teachers may, if possible, suggest an appropriate perspective for students to think about while they read a particular story. As well as helping students discern important ideas, taking a perspective may have positive motivational consequences as a "fun" activity. Remedial readers may have to be told directly what is and is not important in a text. Teachers frequently introduce stories with new words and background information to produce a "mind set" for reading. The research in this paper suggests that teachers need to reintroduce this "set" after reading to insure that their students will use it.

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Table 1

Correlations Between Adult and Student Mean Ratings of Idea Unit Importance from the Operative Perspective

Operative perspective	Grade level		
	3	5	7
Safety expert	.60	.82	.84
Burglar	.73	.75	.88
Control	.23	.35	.61
Brown and Smiley (1977)	.12	.33	.81

Table 2

Average Correlations of Individual's Ratings with those of Adult and Peer Groups

Perspective	Group	
	Adults	Peers
Grade 3[a]		
Safety expert	.42	.45
Burglar	.38	.37
Control	.16	.52
Grade 3[b]		
Safety expert	.50	.58
Burglar	.44	.44
Control	.20	.62
Grade 5[a]		
Safety expert	.57	.62
Burglar	.45	.53
Control	.21	.54
Grade 7[a]		
Safety expert	.64	.66
Burglar	.71	.77
Control	.41	.60

[a]Experiment 1a

[b]Experiment 1b

Table 3

Mean Concordance Scores: The Relationship Between Third-Graders' Recall and Various Rating Data

	Rater(s)									
	Self		Peer group						Adults		
	Prediction	Postdiction	Prediction			Postdiction					
			S	B	C	S	B	C	S	B	C
Safety expert (S)	.14	.16	.21	.13	.24	.19	.14	.22	.15	.01	.13
Burglar (B)	.10	.07	.19	.11	.20	.16	.12	.20	.15	.04	.09
Control (C)	.07	.06	.12	.08	.15	.10	.04	.13	.06	.07	.10

Note. These scores represent the average correlation of subject's recall and their own ratings, the mean ratings of peer groups, and the mean ratings of adult groups.

Table 4

Correlations Between Group Importance Ratings and Overall Recall by Third-Graders

Perspective	Rating group			
	Peers		Adults	
	Perspective-relevant	Control	Perspective-relevant	Control
Safety expert	.40	.46	.34	.26
Burglar	.28	.46	.10	.16
Control	---	.26	---	.19

Table 5

Proportion of Idea Units Recalled from the Safety Expert and Burglar Clusters:

Perspective	Experiment 1b		Experiment 2	
	Idea unit cluster		Idea unit cluster	
	Safety expert	Burglar	Safety expert	Burglar
Safety expert	.32	.23	.32	.28
Burglar	.47	.32	.24	.41
Control	.39	.27	.27	.33

Table 6

Proportion of Previously Unrecalled Ideas Listed After a Probe for Each Perspective

Perspective	Idea unit cluster	
	Safety expert	Burglar
Safety expert (S)	.06	.11
Burglar (B)	.06	.11
Control-SB[a]	.05	.10
Control-BS[a]	.05	.10

[a]Represents the order in which new perspectives were assigned.

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